

backward near the broadly rounded angles; median groove distinct, fading out before reaching the base. Elytra with the humeri broadly rounded and depressed, broadly elevated around the scutellum, truncate at tip and minutely dentate at inner angle; two oblique depressions near the suture, one before the middle, the other behind it, a very faint third depression towards the tip; the outer half slopes obliquely from behind the humeri; the punctures in rows, very coarse and close together, less coarse and deep towards the apex; interspaces more or less convex, the surface shining, finely and closely transversely wrinkled. Legs slender, the posterior femora with a stout tooth; the posterior tibiae with the apical half curved inward. Mesosternum narrower than the coxa. Pygidium slightly rounded, almost truncate. Under surface clothed with pale yellowish pubescence.

Types in the Illinois State Laboratory of Natural History and U. S. National Museum and the collection of the author.

Localities: Fourth Lake, Lake Co., Ill., 2 and 5 Aug., 1887 (on bulrushes, Garman and Hart); Normal, Ill., Sept., 1880 (one specimen); Indiana (one specimen).

The species varies in coloration. Of the 19 specimens examined five are ferruginous-yellow above and below, with only the head green and the femora touched with the same color. One specimen is entirely golden green above, the under side of the prothorax and the margins of the ventral segments ferruginous and traces of the same color on the legs. The other 13 are the type form.

The following paper by Mr. A. N. Caudell was then read:

THE SPECIES OF THE GENUS CHIMAROCEPHALA AND
DESCRIPTIONS OF TWO NEW SPECIES OF
CALIFORNIAN ORTHOPTERA.

BY A. N. CAUDELL.

The genus *Chimarocephala* was established by Scudder in 1876 for four species, *viridifasciata*, *brevipennis*, *cubensis*, and *pacifica*. In 1884 Saussure removed the first three species to his new genus *Chortophaga*, leaving only *pacifica*, which is therefore the type of *Chimarocephala*. At the same time Saussure described a new species of *Chimarocephala*, *beherensi* from California, and referred to that genus his *Tomonotus otomitus*, a Mexican species described in 1861. Saussure separated his new Californian species from Thomas' *pacifica*, also from California, on the characters of the thorax, which

he said was smooth with the median carina entire in the new species and rough and with the carina incised in *pacifica*. But, as proven by Thomas' original description and by his type, which is in the National Museum, Saussure did not correctly interpret his species, the characters attributed to *behrensi* really belonging to *pacifica*. *Behrensi* Sauss. therefore falls as a synonym of *pacifica* Thom. and the insect supposed by Saussure to be the *pacifica* of Thomas is unnamed. For this form I would propose the name *incisa* and would designate it as a variety rather than a species, the differentiating characters being variable.

One male specimen of *C. pacifica* from Monterey County, Cal., taken in August, 1904, by Mr. Coleman, agrees very well with the form *incisa* except that the vertex is much less elongate than usual and the body is somewhat thicker, giving it something of the appearance of an *Encoptolophus*. It is worthy of varietal distinction and may be called *obtusa*.

The species of *Chimarocephala* thus stand as follows:

Chimarocephala pacifica Thom.

behrensi Sauss.

Var.—*incisa* Caud.

pacifica Sauss. (not Thom).

Var.—*obtusa* Caud.

Chimarocephala otomita Sauss.

DESCRIPTIONS OF NEW CALIFORNIAN ORTHOPTERA.

Melanoplus sonomaensis n. sp.

A very small brachypterous species allied to *puer* and belonging to the *puer* series. Color brownish with dark markings. Head scarcely prominent in the female, slightly so in the male, reddish brown with piceous postocular bands; vertex feebly tumid, scarcely elevated above the pronotum, interspace between the eyes about as broad, male, or somewhat broader, female, than the basal segment of the antennæ; fastigium and frontal costa as in *puer*; eyes moderately prominent, more so in the male, longer than the infraocular portion of the genæ in both sexes. Pronotum with the lateral and median carinæ distinct, anterior margin truncate, posterior margin obtuse-angulate, almost truncate, especially in the female, the lateral piceous band scarcely continued onto the metazona in either sex. Prosternal spine stout, blunt, slightly inclined backwards; interspace between the mesosternal lobes as broad, male, or broader, female, than long; metasternal lobes of both sexes separated by a space much longer than broad, but in no ways attingent. Tegmina abbreviated, shorter than the pronotum in both sexes, scarcely twice as long as broad, apically broadly rounded and not meeting above in either sex, though not widely separated. Fore and middle femora somewhat

tumid in the male, the hind femora brownish with faint scalariform markings on the outer face, the inner face somewhat infuscated and the geniculations darkened; hind tibiae, in dried specimens, brownish or yellowish brown, the spines black-tipped, eleven to thirteen in outer series. Abdomen reddish brown with a lateral black stripe along the upper portion of the sides, in the male extending quite to the tip, in the female scarcely beyond the basal half. Tip of the male abdomen neither swollen nor recurved, subgenital plate noticeably narrower than long, apically forming a blunt tubercle; supraanal plate elongate-triangular, the sides straight, median sulcus broad, deep, extending across the basal half of the plate; furcula small, short blunt teeth overlying the submedian ridges of the supraanal plate; last dorsal segment of the abdomen, just outside of the furcula, diagonally sulcate as in the *aridus* series. Cerci of the male very slightly compressed and moderately incurved substyli-form appendages tapering considerably and quite uniformly on the basal three-fourths, the tip more gradually tapering to a moderately sharp point.

Length, male, 13 mm., female, 15 mm.; elytra, male, 2 mm., female, 2.5 mm.; hind femora, male, 8 mm., female, 8.5 mm.

Type.—No. 8386, U. S. National Museum.

One male, one female, Glenellen, Sonoma County, California. (E. S. G. Titus), collected on rocky hillside.

Scudder's table of the *puer* series, page 128 of his Revision of the Melanopli, may be modified for the reception of this species as follows:

f¹ Tegmina attingent; subgenital plate of male short and broad, its apical breadth surpassing the length of its lateral margins, not elevated apically. *flabellatus*.

f² Tegmina distant; subgenital plate of male distinctly narrower than long, elevated apically.

g¹ Pronotum of both sexes truncate posteriorly, distinctly emarginate mesially; interspace between the mesosternal lobes slightly longer than broad, male, or quadrate, female; metasternal lobes subattingent in the male; elytra widely separated, *puer*.

g² Pronotum obtuse-angulate, at least in the male, not emarginate mesially; interspace between mesosternal lobes quadrate, male, or transverse, female; metasternal lobes distinctly separated in the male; elytra not widely separated *sonomaensis*.

Trimerotropis titusi n. sp.

A small species belonging to the *vinculata* group and falling next to Bruner's *inconspicua* but is in no way allied to it.

General color light brown with the elytra banded conspicuously. Head prominent, in the male noticeably elevated above the pronotum and

slightly broader than the anterior portion of it; vertex with the lateral borders well elevated and with a distinct and moderately prominent median carina; frontal costa narrow, scarcely more than one-half as wide as the interocular space in either sex, percurrent, sulcate at the ocellus and, like the entire face, punctate; eyes prominent, not as long as the infraocular portion of the genæ, in the female less than two-thirds as long; antennæ uniformly dark reddish brown. Pronotum moderately slender, the posterior process rectangular or acute, there being considerable variation in this respect; median carina moderately elevated on the prozona, linear on the metazona; prozona about two-thirds as long as the metazona. Elytra with a nearly solid black band at the humeral angle, a more or less broken one across the middle, and across the center of the apical half a third band which is usually broken up and lost in the black fleckings that occupy the apical fourth of the elytra; the basal portion of the elytra, before the humeral band, is darker in ground color than the rest of the ground surface; wings moderately broad, not quite twice as long as the greatest breadth; disk pale yellowish, the fuscous band represented by a cloud on the anal field and usually a slight infuscated spot near the costal margin; sometimes the band is not represented at all and there is never a costal tænia. Posterior femora ashy on the outer face with a black band across the apical third and a large infuscated spot on the upper half just before the middle; inner face black with two broad white bands, the lower sulcus white with a subapical black band and sometimes slightly infuscated on the basal half; hind tibiæ yellowish, the spines black on the apical half.

Length, male, 18 mm., female, 25 mm.; antennæ, male, 9.5 mm.; hind femora, male, 10 mm., female, 13 mm.; elytra, male, 18 mm., female, 21 mm.; width of wing at greatest point, male, 9 mm., female, 11 mm.

Type.—No. 8385, United States National Museum.

Eight males, 3 females, Spreckels, Monterey Co., California, on sugar beets, September 20, 1904 (E. S. G. Titus).

Superficially this species bears a very close resemblance to *Trimerotropis albescens* McNeill, but is very distinct from it. *Albescens* has the antennæ barred with black and white while here it is unicolorous, the pronotum of *titusi* is more slender than that of *albescens* and the color is considerably darker. Finally the hind tibiæ of *albescens* are blue while in *titusi* they are yellowish.

MAY 4, 1905.

The 196th regular meeting was held in Sængerbund Hall, and the president and vice-president being absent Dr. H. G. Dyar occupied the chair. The following persons were present: